# MAKE A CAVE!

## Objective:

Students will demonstrate how carbonic acid can slowly dissolve limestone and form caves.

### **Materials:**

- A piece of limestone, preferably with an imbedded fossil
- Water
- Soda pop, preferably clear

### **Procedure:**

- 1. Show the class the example of limestone. Pass it around the room and allow each student to closely examine it. Review how limestone forms.
- 2. Ask the students how caves are formed in limestone. (Water dissolves the rock.) Pour water over the limestone. What happens? Do we have a cave? No, we have a wet rock! By itself, water cannot dissolve limestone. What else do we need?
- 3. From completing the "Make Carbonic Acid" activity, the students should remember that carbon dioxide in the soil could change the water into carbonic acid. What will happen when carbonic acid seeps through the soil and reaches the underlying bedrock? If this bedrock is limestone (or another carbonate rock), it will slowly dissolve it.
- 4. Ask the class where they might find carbonic acid in their every-day lives. Soda pop is acidic because it contains carbonated water, or carbonic acid.
- 5. Pour the soda pop over the limestone. Make sure that every student has a chance to see the limestone fizz and slowly dissolve. The soda will fizz on any material, but the acid will dissolve the rock. You could use hydrochloric acid in a demonstration, but if you do make sure the students follow all the safety procedures.
- 6. Discuss how carbonic acid can travel through the limestone (via cracks) and create cave passages.





